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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Docket No. 2506-002

Graham D. STEAD

Appln. No.: **09/642,201**

Conf. No.: 8021

Group Art Unit: 2666

Filed: August 21, 2000

Examiner: M. Jagannathan

Title: WIRELESS TELEPHONE  
NETWORK OPTIMIZATION

**TRANSMITTAL LETTER**

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Enclosed please find the following:

1. Appellant's Appeal Brief; and
2. Copy of US 5640414 (attach. to Evidence Appendix).

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge the appeal brief fee of \$250.00 to Deposit Account No. 18-1579. The Director is also hereby authorized to charge any fee deficiency, or credit any overpayment, to Deposit Account No. 18-1579.

Respectfully submitted,  
ROBERTS ABOKHAIR & MARDULA, LLC

Kevin L. PONTIUS  
Reg. No. 37512  
505-922-1400

12/28/2004 EABUBAK1-00000116\_181579 09642201  
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**PATENT APPLICATION**

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Title: WIRELESS TELEPHONE  
NETWORK OPTIMIZATION

**APPELLANT'S APPEAL BRIEF  
UNDER 37 C.F.R. § 41.37**

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with the provisions of 37 C.F.R. § 41.37,  
Appellant submits the following:

**I. REAL PARTY IN INTEREST**

Based on information supplied by Appellant, and to the best of Appellant's legal representatives' knowledge, the real party in interest is the assignee, INVERTIX CORPORATION.

**II. RELATED APPEALS AND INTERFERENCES**

Appellant, as well as Appellant's assigns and legal representatives are unaware of any appeals or interferences which will be directly affected by, or which will directly affect, or have a bearing on the Board's decision in the pending appeal.

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Date: December 22, 2004

RA&M Ref. No.: 2506-002

**III. STATUS OF CLAIMS**

Claims 8, 12, and 16 are currently pending. Claims 1-7, 9-11, 13-15, and 17 have been canceled. Claims 8, 12, and 16 are appealed. Claims 8, 12, and 16, as finally rejected, are set forth in the attached Appendix.

**IV. STATUS OF AMENDMENTS**

No amendment has been filed subsequent to the final rejection.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

The aspect of the disclosed invention to which the appealed claims are directed provides a way for an operator of a Code Division Multiple Access (CDMA) wireless network to improve the performance of its network by identifying window size settings for the various sectors of its cellular base stations that will make for more efficient call handling. The window size setting of a CDMA sector dictates over how large a range of possible codes the operating software for the base station will search to look when attempting to establish code synchronization with a mobile unit. In selecting this size, there is a trade-off. If the window size of a sector is set too small the sector may miss suitable opportunities for code synchronization. If the window size of a sector is set too large the sector may be unduly slow to obtain code synchronization.

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Claim 8 recites a process of selecting a value of window size for a sector-of-interest in a code division multiple access wireless network. The earliest arriving multipath signal is selected from among all sectors that meet the threshold criteria  $E_c/I_o > T\_ADD$ . See specification at page 6, lines 10-13 and page 12, lines 16-18; Fig. 8, ref. no. 810. The quantity  $E_c/I_o$  corresponds to a signal level and the quantity  $T\_ADD$  corresponds to a predetermined threshold signal level. See specification at page 6, lines 10-13. A pair of sectors, ToSector and FromSector, are selected that meet the threshold criteria  $E_c/I_o > T\_ADD$ . See specification at page 6, lines 13-14 and page 12, lines 18-19; Fig. 8, ref. no. 820. A window size of FromSector is set to be equal to the chip delay of ToSector, less the chip delay of the earliest arriving multipath sector. See specification at page 6, lines 14-15 and page 12, lines 19-21; Fig. 8, ref. no. 830. An evaluation is made whether the window size of FromSector > maximum FromSector window size. See specification at page 6, line 16 and page 12, lines 21-23; Fig. 8, ref. no. 840. If the window size of FromSector is greater than the maximum window size, then maximum FromSector window size is set to be equal to the window size of FromSector. See specification at page 6, lines 16-18 and page 12, line 23, through page 13, line 2; Fig. 8, ref. no. 850.

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Claim 12 is directed to a computer program product bearing software instructions to implement the process of claim 8. Aside from being directed to a different statutory category of invention, claim 12 is commensurate in scope with the process recited in claim 8. Refer to the above discussion of claim 8 concerning support in the specification for claim 12.

Claim 16 is directed to a machine implementation of the process of claim 8. Aside from being directed to a different statutory category of invention, claim 16 is commensurate in scope with the process recited in claim 8. Refer to the above discussion of claim 8 concerning support in the specification for claim 16.

**VI. GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL**

The two grounds of rejection to be reviewed are:

1. Do claims 8, 12, and 16 fail to meet the written description requirement under 35 U.S.C. § 112, ¶ 1st?
2. Do claims 8, 12, and 16 fail to meet the enablement requirement under 35 U.S.C. § 112, ¶ 1st?

**VII. ARGUMENT**

The rejection in the final Office Action is styled as being based on the written description requirement. However, some portions of the analysis in the final rejection discuss concepts that appear to raise questions concerning the enablement

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requirement. To comprehensively address all the issues being raised in the final rejection, Appellant presents argument concerning both the written description requirement and the enablement requirement.

**1. WRITTEN DESCRIPTION**

Some language of the rejection sounds in a written description requirement rejection. To the extent that this rejection is styled as being based upon the written description requirement of § 112, ¶ 1st, Appellant argues for patentability as follows.

The correct legal test to apply is whether the disclosure as originally filed puts the public on notice, in such a way as would be recognized by the skilled artisan, that what is now claimed was what Appellant regarded as his invention. *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 U.S.P.Q. 177, 179 (Fed. Cir. 1985). Presence of the claimed subject matter in the originally filed claims is sufficient to demonstrate that the written description requirement has been satisfied. *In re Koller*, 613 F.2d 819, 823-24, 204 U.S.P.Q. 702, 706 (C.C.P.A. 1980) ("[O]riginal claims constitute their own description. Later added claims of similar scope and wording are described thereby."); *Ex parte Porter*, 25 U.S.P.Q.2d 1144, 1146 (Bd. Pat. App. & Int. 1992). Appellant notes that each of claims 8, 12, and

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16 is as it was originally filed, with the exception of correcting typographical errors. Accordingly, Appellant respectfully submits that the written description requirement is satisfied as to the subject matter of claims 8, 12, and 16.

**2. ENABLEMENT**

Some language of this rejection sounds in an enablement rejection. To the extent that this rejection is a challenge to the enablement by the specification, Appellant argues for patentability as follows.

The correct legal test to apply is whether the disclosure provides teachings sufficient to teach a person having ordinary skill in the art to make and use the claimed invention without need of undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988).

**2.A. Determining Chip Delay**

The Examiner contends that the specification does not disclose how to determine chip delay of ToSector, nor how to determine chip delay of the earliest arriving multipath sector. The chip delay of each sector is easily knowable because it is preset for every sector in a CDMA-type cellular telephone network. It is not some unknown quantity that would need to be determined; it can be determined from data known to company operating the cellular network. The company would have knowledge

of that data because it pertains to parameters the company itself set in the process of configuring the network. Persons having ordinary skill in the art of cellular telephony would have readily understood this basic aspect of CDMA network operation.

## **2.B. Determining Maximum Window Size**

The Examiner contends that the specification does not disclose how to determine the maximum window size. Each sector in a CDMA cellular telephone network has as one of its parameters a maximum window size, which acts as a limit to what the window size may become for that given sector. It is preset for every sector in the network and, thus, is an easily knowable parameter of the network. Persons having ordinary skill in the art of cellular telephony would have readily understood this basic aspect of CDMA network operation.

One aspect of the present invention is that the preset parameters of a CDMA network can be improved via an algorithm that analyzes these preset parameters in view of a body of drive test data that has been taken. This algorithm, as it is described in the claims (as a process in claim 8, as part of a computer program product in claim 12, and as operations of a computer-based system in claim 16) selectively modifies the window size of a given sector by either increasing it if such increase is appropriate or making no change to the window size if



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no increase is appropriate. Part of the algorithm addresses the possibility that by increasing a sector's window size that the maximum window size parameter set for that sector may be exceeded. To avoid any contradiction, if an increased window size would exceed the set maximum window size for that sector, then the maximum window size for that sector is simply increased to be the same as the newly increased window size. This is explained in the specification at page 12, line 21 through page 13, line 2.

Thus, there is no difficulty in determining maximum window size. As explained above, the preset maximum window size is a preset value that is knowable for each sector in a CDMA network, and potential modifications of those parameters for the sectors is determined according to the present invention based on the text that bridges pages 12 and 13 of the specification.

**2.C. Definition Of Maximum Window Size**

The Examiner expresses concern that the term "maximum window size" is not defined in such a way as to be clear and concise. The term "window size" is a well known term of art within the field of CDMA cellular telephony. By way of example, the distribution to the sectors and the mobile units of window size parameters from a central system controller is described in a prior publication in this art, patent US 5640414. (Patent US

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5640414 was entered into the record via discussion in the remarks to the Amendment filed May 15, 2004.)

A term "maximum window size" is pretty self explanatory - a value that the window size is not to exceed. This, too, is a well known term of art within the field of CDMA cellular telephony.

In the even there is any doubt as to whether the term "maximum window size" means a global maximum for the entire network, or merely a maximum for each individual sector in the network, the meaning of this term is elucidated by the specification. As is clear from the description in the text that bridges pages 12 and 13 of the specification, the term "maximum window size" means a maximum for each individual sector in the network.

Since persons having ordinary skill in the art would have understood all the terms called into question by the Examiner, Appellant respectfully submits that the claimed invention is sufficiently enabled so as to be practiced by persons having ordinary skill in the art without resort to undue experimentation.

**CONCLUSION**

For the above reasons, Appellant respectfully requests that the rejection under the first paragraph of § 112 be carefully

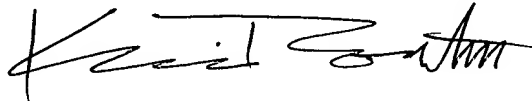
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reconsidered and withdrawn. In particular, Appellant respectfully submits that the Examiner has failed to make out a *prima facie* case of an unmet written description requirement or a lack of enablement with regard to claims 8, 12, and 16, and asks that the § 112, ¶ 1st rejection be reversed.

Appellant hereby petitions for any extension of time that may be required to maintain the pendency of this case, and any required fee for such extension is authorized to be charged to Deposit Account No. 18-1579.

Respectfully submitted,

ROBERTS ABOKHAIR & MARDULA, LLC



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VIII. CLAIMS APPENDIX

**Listing of appealed claims 8, 12, and 16:**

8. A process of selecting a value of window size for a sector-of-interest in a code division multiple access wireless network, the process comprising:

select the earliest arriving multipath signal of all sectors that meet the threshold criteria  $E_c/I_o > T\_ADD$ , wherein  $T\_ADD$  is a predetermined threshold signal level;

select a pair of sectors, ToSector and FromSector, that meet the threshold criteria  $E_c/I_o > T\_ADD$ ;

set a window size of FromSector = chip delay of ToSector - chip delay of the earliest arriving multipath sector;

evaluate whether the window size of FromSector > maximum FromSector window size; and

in the event that the window size of FromSector is greater than the maximum window size, then set maximum FromSector window size = the window size of FromSector.

12. A computer program product for enabling a computer to select a value of window size for a sector-of-interest in a code division multiple access wireless network, the computer program product comprising:

software instructions for enabling the computer to perform predetermined operations, and

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a computer readable medium embodying the software instructions;  
the predetermined operations comprising:

select the earliest arriving multipath signal of all sectors  
that meet the threshold criteria  $E_c/I_o > T\_ADD$ , wherein  
 $T\_ADD$  is a predetermined threshold signal level;  
select a pair of sectors, ToSector and FromSector, that meet  
the threshold criteria  $E_c/I_o > T\_ADD$ ;  
set a window size of FromSector = chip delay of ToSector -  
chip delay of the earliest arriving multipath sector;  
evaluate whether the window size of FromSector > maximum  
FromSector window size; and  
in the event that the window size of FromSector is greater  
than the maximum window size, then set maximum  
FromSector window size = the window size of FromSector.

16. A computer system adapted to select a value of window  
size for a sector-of-interest in a code division multiple access  
wireless network, comprising:

a processor, and  
a memory including software instructions adapted to enable  
the computer system to perform operations comprising:

select the earliest arriving multipath signal of all  
sectors that meet the threshold criteria  $E_c/I_o > T\_ADD$ ,  
wherein  $T\_ADD$  is a predetermined threshold signal

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level;

select a pair of sectors, ToSector and FromSector, that

meet the threshold criteria  $E_c/I_o > T\_ADD$ ;

set a window size of FromSector = chip delay of ToSector

- chip delay of the earliest arriving multipath sector;

evaluate whether the window size of FromSector > maximum

FromSector window size; and

in the event that the window size of FromSector is

greater than the maximum window size, then set maximum

FromSector window size = the window size of FromSector.

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**IX. EVIDENCE APPENDIX**

US 5640414 (copy attached)

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X. RELATED PROCEEDINGS APPENDIX

NONE